

ABSTRACT OF THE DISCLOSURE

In an outer tube, which is made of silicon carbide, and which has an upper portion closed and a lower portion opened, has the lower portion formed with a tapered  
5 portion so as to expand a diameter thereof toward a lower end thereof, and has a flange formed on an outer peripheral side of the lower portion; the following conditions are met:

- 1) a ratio of  $t_a/D_1$  is from 0.0067 to 0.025,
- 10 2) a product of  $t_a \times D_1$  is from 600 to 4,000 ( $\text{mm}^2$ ),
- 3)  $(D_{F2}-D_{F1}) \times t_c / (D_1 \times t_a)$  is from 0.1 to 0.7, and
- 4)  $L_1/L_2$  is from 1 to 10;

where the outer tube has a thickness of  $t_a$  (mm) and an inner diameter of  $D_1$  (mm), the flange has a thickness  
15 of  $t_c$  (mm), an inner diameter of  $D_{F1}$  (mm) and an outer diameter of  $D_{F2}$  (mm), and the tapered portion has a height  $L_1$  (mm) and an expanse of  $L_2$  (mm).